REMARKS/ARGUMENTS

Claims 21-36 are pending. Support for the claims is found in the original claims and disclosure as follows: claims 21-22 (claim 1, page 4 [0008, 0012, 0014-0016]), claims 23-29 ([015-0016] on pages 7-8), claims 30-32 (claim 3, top of page 8), and claims 33-35 (claims 4-9, page 9 [0017]). Thus, no new matter is believed to have been introduced. Favorable consideration of this amendment and allowance of this case are respectfully requested.

Rejection—35 U.S.C. §112, first paragraph

Claims 1-7 and 12-20 were rejected under 35 U.S.C. 112, first paragraph, as not being enabled for immunoassays except those for diagnosis of coronary artery condition (CA), unstable angina (UAP) and myocardial infarction (MCI) by measuring increased PTX3 using an antibody-based assay as compared to defined controls. This ground of rejection is moot in view of the cancellation of these claims. It would not apply to the new claims which define an increased level of pentraxin with respect to a control value. The use of control values in immunoassays was well-known and well within the skill of the artisan; immunoassays useful for measuring PTX3 levels were well-known in the art at the time of the invention as shown by Peri, et al., Circulation 102: 636-641 (2000) or Latini, et al. US 2004/0137544 A1 [0009].

The Examiner comments at the bottom of page 4 of the OA that "it is unknown what specific levels of PTX3 can be used as an indicator of the extent of *different forms* of vascular injury". This statement appears to equate vascular injury with the different diseases associated with or characterized by vascular injury. However, the present claims are directed to assessing the extent of vascular injury which the inventors show correlates with the relative level of pentraxin (PTX3). With regard to such a controlled assessment, it was well within the skill in the art to determine a relative level of PTX3 compared to a control value and thus one of skill in the art, e.g., a medical doctor, would have been able to detect an abnormal

pentraxin level based on the controlled comparison required by the present claims. Therefore, this rejection would not apply to the new claims.

Rejection—35 U.S.C. §112, first paragraph

Claims 1-7 and 12-20 were rejected under 35 U.S.C. 112, first paragraph, as lacking adequate written description on the ground that the specification only shows possession of the concept of diagnosis of coronary artery condition (CA), unstable angina (UAP) and myocardial infarction (MCI) by measuring increased PTX3 using an antibody-based assay as compared to a control. This rejection is moot in view of the cancellation of these claims. New independent claim 21 refers to "an increased level of pentraxin in the blood of the subject compared to the control value".

With regard to "assessing the extent of vascular injury" as recited in independent claim 21, page 8, line 15 *ff.* of the specification disclose:

> In the present invention, vascular injury includes vascular injury caused by hyperlipidemia, cerebral disease, hypertension, diabetes, obesity, and smoking.

The surrounding text on pages 8 and 9 disclose all types of vascular injury characterized by characteristic histological phenomena. General methods for measuring PTX3 levels (not limited to antibody-based methods) are described on page 6, lines 3-5 and in the original claims. The original claims also describe the general concept of determining the extent or grade of vascular injury by measuring PTX3 levels (see e.g., claim 1). As evident from these portions of the specification, the Applicants clearly possessed the concept of assessing vascular injuries other than CA, UAP and MCI. Therefore, the Applicants respectfully traverse statement on page 10, line 4 of the Official Action ("OA") that "Applicant is not in possession of detecting other vascular injury or heart diseases or cerebrovascular diseases". As apparent from the original disclosure, the Applicants were in

possession of the concept of assessing vascular injury including, but not limited to, those associated with CA, UAP and MCI. Therefore, this rejection would not apply to the new claims.

Rejection—35 U.S.C. §102

Claims 1-7 and 12-15 were rejected under 35 U.S.C. §102(b) as being anticipated by Peri, et al., Circulation 102:636. This rejection is now moot. It would not apply to the new claims because Peri is directed to a method using PTX3 as an early indicator of **myocardial infarction (MCI)**, but did not suggest using this marker to assess the extent of vascular injury as determined by the criteria described in claim 21. As disclosed on page 52 of the specification "PTX3 serves as a marker highly specific to the blood vessel and is not a marker for the diagnosis of systemic inflammation". Moreover, claim 21 is directed to assessing a subject who has not had a MCI. Accordingly, this rejection would not apply to the new claims.

Rejection—35 U.S.C. §102

Claims 1-7 and 12-15 were rejected under 35 U.S.C. §102(a) and (e) as being anticipated by Latini, et al., U.S. 2004/0137544. This rejection is moot since the rejected claims have been cancelled. It would not apply to the new claims because Latini is directed to a "method for the early determination of the risk of death or heart failure in infarction patients" or patients with cerebral ictus (see abstract) or as a "prognostic marker in cardiovascular and cerebrovascular diseases" [0001].

Latini did not disclose or suggest using a marker to assess the extent of vascular injury as determined by the criteria described in claim 21. Moreover, Latini does not

contemplate obtaining test samples from a subject who has not had a myocardial infarction. Therefore, this rejection would not be applicable to the present claims.

Rejection—35 U.S.C. §102

Claims 1-7 and 12-15 were rejected under 35 U.S.C. §102(a) as being anticipated by Latini, et al., Circulation 110:2349. This rejection is moot in view of the cancellation of these claims. It would not apply to the new claims because Latini describes a method of determining a **myocardial infarction patient's** prognosis after several months from the time of the assay of a biological sample from the patient. The present claims are directed to assessment of "a subject who has not had a myocardial infarction".

Moreover, the present invention immediately assesses the extent of vascular injury at the time of the assay, not months afterward. Latini, page 2350, 3rd and 4th paragraphs, cited on page 14 of the OA refers to "Comparative predictivity of PTX3" with respect to various outcomes including all-cause death, heart failure, cardiac residual ischemia of "patients with acute coronary syndromes" (page 2350, 1st col., line 14). Page 2352, first full paragraph, indicates that "Compared with other biomarkers. . .PTX3 has been shown to be an earlier and stronger **prognostic** marker of death in . . .patients with MI [myocardial infarction]".

As apparent from the excerpts above, Latini involves use of PTX3 as a **prognostic** marker for disease outcomes in subjects having acute coronary syndromes, but **not as a marker to assess the extent of vascular injury**. Accordingly, would not anticipate the present claims.

Provisional Rejection--Obviousness-type Double Patenting

Claims 1-7 and 12-15 were rejected under the judicially-created doctrine of obviousness-type double patenting over claims 1-3 of copending U.S. Application

12/092,272. This rejection is moot in view of the cancellation of these claims. Moreover, should it be applied to the new claims, the foregoing amendments and remarks address all the remaining rejections and place this application in condition for allowance. Accordingly, this provisional double patenting rejection can be withdrawn since the copending application has not yet been allowed, MPEP 804(I)(B).

Rejection—35 U.S.C. §112, first paragraph

Claims 16-20 were rejected under 35 U.S.C. 112, first paragraph, as failing to meet the written description requirement. This rejection is moot in view of the cancellation of claims 16-20. Should this rejection be applied to any of the new claims, the inquiry is whether the inventors possessed the subject matter of the rejected claims, not whether there is literal or express support for each phrase in these claims. A claim term need not be literally described in the specification.

> The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter, **rather than the presence or absence of literal support** in the specification for the claim language (emphasis added)", In re Kaslow, 217 USPQ 1089 (Fed. Cir. 1983).

The specification contemplates obtain test samples from a variety of subjects including those with "vascular injury caused by hyperlipidemia, cerebral disease, hypertension, diabetes, obesity, and smoking" (specification, page 8). Subjects who have not experienced myocardial infarction are disclosed on page 3, lines 9-12 and page 4, lines 5-7. Accordingly, this rejection would not apply to the new claims.

Conclusion

In view of the amendments and remarks above, the Applicants respectfully submit that this application is now in condition for allowance. An early notice to that effect is earnestly solicited.

Respectfully submitted,

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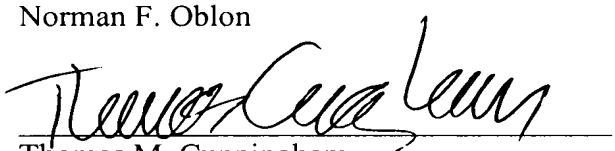

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